

REMARKS

Applicant has made a concerted effort to present claims which clearly define over the prior art of record, and thus to place this case in condition for allowance.

Currently, claims 1-7, 19-23, 25, 28, 29 and 36 are pending. Claims 8-17, 24, 26, 27 and 30-35 were canceled without prejudice in this Amendment.

Claims 1, 2, 6, 7, 19-22, 25 and 36 have been amended for clarity, but Applicant submits that the scope of the claims has not been altered. Therefore, Applicant requests that this Amendment be entered and considered.

Claim Rejections - 35 U.S.C. §103

Claims 1-10, 16, 17, 19-28 and 34-36 were rejected under 35 U.S.C. §103 as allegedly being unpatentable over United States Patent No. 5,558,084 to Daniell et al. in view of United States Patent No. 4,708,831 to Elsworth et al. Reconsideration of the rejection is requested. Claims 8-10, 17, 24, 26, 27, 34 and 35 have been canceled.

The present invention as specified in the claims provides for controlling the humidifier without the need for any sensors in the humidifier chamber or downstream in the conduit to the patient. Control of the humidifier is achieved by estimating the rate of flow of gases through the humidifier using the input power to the conduit heater together with another parameter, such as the resistance of the conduit heater, to provide an estimate of the rate of flow of gases through the humidifier. The invention as specified in the claims further relates to continuously monitoring flow rate to avoid thermal overshoot, which occurs when the flow drops suddenly, causing the temperature of the gases to become dangerously high.

Firstly, claims 1, 19 and 36 relate to controlling the input power of the humidifier based upon changes in the flow rate. The Examiner's rejection appears to be based upon an

understanding that the claims relate to the control of the power to the conduit heater, not the humidifier.

Secondly, the Examiner alleges that Elsworth discloses a conduit heater. The heating element (25) in Elsworth, however, is in fact a humidifier, used to heat water in a tube (10). The Examiner states "changes of resistance of the heating wire are used to give up the approximate measurement of the wire and temperature of the conduit". Applicant respectfully submits that this is not correct. The change of resistance in Elsworth is used to estimate a change in the water temperature. This does not necessarily reflect the temperature of the gas in the conduit or the "temperature of the conduit" as the Examiner alleges. The idea of measuring the change of resistance of the heating wire in Elsworth, as set out in claim 4 of Elsworth, is to determine if the water has run dry and is a safety feature, hence the low temperature melting point wire specified in Col. 3, lines 27-29 of Elsworth.

Thirdly, the Examiner states that "changes in the resistance . . . is a parameter that is an output indicative of the input power to the conduit heater since such measurement depends on the input power of the conduit heater". Notwithstanding that the heater of Elsworth is not a conduit heater as discussed above, Applicant respectfully submits that this statement is incorrect and is not relevant. In Elsworth, changes in resistance of the wire are measured to determine changes in the temperature of the wire, not to provide any information about input power. More importantly, changes in resistance are not used in Elsworth to provide any information about the flow rate of gas through the conduit. Claims 1, 19 and 36 require a parameter (such as resistance) to be used to provide an indication of the flow rate of gas through the conduit. Applicant submits that this is not disclosed or suggested in Elsworth.

Therefore, neither Daniell nor Elsworth disclose or suggest controlling a humidifier based on a parameter, which together with the input power supplied to a conduit heater, is

indicative of flow rate. In addition, neither Daniell nor Elsworth disclose or suggest continuously monitoring such a parameter for any changes and controlling the humidifier accordingly. Therefore, Applicant submits that the combination of Daniell and Elsworth does not render obvious claims 1, 19 and 36. Reconsideration and allowance is requested.

Claims 2-7 are dependent upon claim 1 which Applicant submits is in condition for allowance. Therefore, Applicant submits that claims 2-7 are allowable. Claims 20-23, 25 and 28 are dependent upon claim 19 which Applicant submits is in condition for allowance. Therefore, Applicant submits that claims 20-23, 25 and 28 are allowable. Reconsideration and allowance of these claim is requested.

Claims 11, 12, 15, 29, 30 and 33 were rejected under 35 U.S.C. §103 as allegedly being unpatentable over Daniell et al. in view of Elsworth and further in view of United States Patent No. 5,349,946 to McComb or United States Patent No. 5,031,612 to Clementi. Claims 11, 12, 15, 30 and 33 have been canceled. Claim 29 is dependent upon claim 19 which Applicant submits is in condition for allowance. Therefore, Applicant submits that claim 29 is allowable. Reconsideration and allowance is requested.

Claims 13, 14, 31 and 32 were rejected under 35 U.S.C. §103 as allegedly being unpatentable over Daniell et al. in view of Elsworth, and McComb or Clementi, and further in view of United States Patent No. 5,546,933 to Rapoport et al. or United States Patent No. 6,204,623 to Levy et al. All of these claims have been canceled and therefore this rejection is moot.

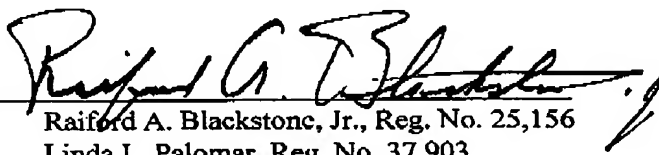
In view of the above, Applicant respectfully submits that the claims of the application are allowable over the rejections of the Examiner. Should the Examiner have any questions regarding this Amendment, the Examiner is invited to contact one of the undersigned attorneys at (312) 704-1890.

Respectfully submitted,

Dated:

May 16, 2005

By:


Raiford A. Blackstone, Jr., Reg. No. 25,156
Linda L. Palomar, Reg. No. 37,903

TREXLER, BUSHNELL, GIANGIORGI
BLACKSTONE & MARR, LTD.
105 W. Adams Street
Suite 3600
Chicago, Illinois 60603
(312) 704-1890

807082